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DR. WALTER M. MITCHELL, of Philadelphia, has been appointed assistant professor of astronomy in the University of Michigan.

PROFESSOR L. S. GRISWOLD has resigned the chair of geology at the Missouri School of Mines, to give his entire time to consulting work. Professor Guy Henry Cox, formerly assistant professor of mineralogy and petrography, has been placed in charge of the department of geology and mineralogy. Mr. J. W. Eggleston has been appointed assistant professor of geology and mineralogy. He is a graduate of Amherst and of Harvard and has taught geology and mineralogy in the Colorado School of Mines and Harvard University.

THE following changes occur this year in the biological department of the North Carolina College of Agricultural and Mechanical Arts and Experiment Station. Mr. P. L. Gainey, assistant soil bacteriologist, resigns to accept a fellowship in the Shaw School of Botany. Mr. B. B. Higgins, assistant botanist, resigns to accept the position as assistant in Cornell University. Mr. T. B. Stansel is appointed as assistant in soil bacteriology (experiment station). Mr. Warren C. Norton is appointed as assistant in botany (college).

DR. LAWRENCE I. HEWES has been appointed assistant professor of mathematics at Whitman College.

MAURICE L. DOLT, instructor in industrial chemistry at Lehigh University, has been appointed assistant professor at the University of North Dakota.

MR. J. W. MAVOR, A.M. (Harvard), has been appointed instructor of zoology at Syracuse University.

DR. L. ASCHOFF, professor of pathology at Freiburg, has been called to Würzburg.

#### DISCUSSION AND CORRESPONDENCE

##### WATER VAPOR ON MARS

TO THE EDITOR OF SCIENCE: I venture to hope that you will regard the following communications as of interest to your readers.

C. G. ABBOT

ASTROPHYSICAL OBSERVATORY,  
SMITHSONIAN INSTITUTION

#### LOWELL OBSERVATORY SUPPLEMENT TO BULLETIN No. 43

Quotation from C. G. Abbot, "A Shelter for Observers on Mount Whitney," Smithsonian Miscellaneous Collections, Quarterly Issue, Vol. 5, Part 4 (p. 506): "The observations of Director Campbell on the spectrum of Mars were entirely conclusive in showing that water vapor, if present at all in the atmosphere of Mars, is in less quantity than is contained in the extremely rare and dry part of the earth's atmosphere which is above Mount Whitney. In fact, no evidence at all of water-vapor on Mars was detected by Campbell."

"Unfortunately, both Director Campbell and myself were on Mount Whitney during unusually unfavorable weather, for the whole southwest, including northern Mexico, was just at that time visited by floods of rain and cloudy weather. Such a condition would not probably be met with at that season one year in ten."

This admission speaks for itself. The excessive moisture must have pervaded the air generally to the masking of moisture on Mars. Even ordinarily summer is the most unfavorable time for getting any results, because the earth's moisture is then at a maximum.

#### SMITHSONIAN INSTITUTION

WASHINGTON, D. C.,

March 24, 1910.

Dear Sir: I have read Lowell Observatory Supplement to Bulletin No. 43. The supplement is unsigned and I do not know but it may have escaped your endorsement. I wish its author might have added in fairness the following facts given in Lick Observatory Bulletin No. 169, viz., Professor Campbell made spectrograms No. 1 and No. 2 on September 1, between 10<sup>h</sup> 30<sup>m</sup> and 15<sup>h</sup> Pac. St. time. Of spectrogram No. 1 he says, "Little *a* shows plainly but very faintly in the Martian and both lunar spectra; less intensely than on No. 3 and more strongly than on No. 2; essentially equal in *Mars* and moon, and certainly not perceptibly stronger in *Mars* than in the moon." Of spectrogram No. 2, he says, "In the Martian spectrum *a* is difficult to see; if we were examining this Martian spectrum as an unknown spectrum, we should almost certainly pass over the *a* band without suspecting its existence." Professor McAdie's sling psychrometer was read on Mt. Whitney at 9<sup>h</sup> 00<sup>m</sup>, 11<sup>h</sup> 30<sup>m</sup>, 12<sup>h</sup> 30<sup>m</sup> and

15<sup>h</sup> 15<sup>m</sup>, Pac. St. time, on the night of September 1, 1909, and after the first observation the relative humidity was found not to exceed 4 per cent., the vapor tension not to exceed 0.15 millimeter at any of these readings.

My statement quoted in Lowell Observatory Supplement refers to the weather in general during our stay on Mt. Whitney, but referring to the weather on September 1 and 2, Professor Campbell states: "No clouds were visible in any part of the sky on either night. There had been a few clouds in the afternoons, but these cleared away completely at sunset. There were no clouds in the forenoon of September 3. We can not doubt the evidence of the clouds and the instruments that considerable moisture existed in the afternoons and early evenings, and that later in the evenings the vapor contents of the air were reduced to a remarkably low quantity."

I was present, and saw all the spectra, and can confirm Professor Campbell's description of them, and also his statement of the apparent condition of the sky during his observations. I also verified the excellence of definition of his spectroscope. If, as stated in the Lowell Observatory Supplement above referred to, "The excessive moisture must have pervaded the air generally to the masking of moisture on Mars," it could not, in my judgment, have failed to have produced a little *a* band of more noticeable strength both for Mars and the moon in spectrograms No. 1 and No. 2.

As of course you would not wish me to be placed by a bulletin of the Lowell Observatory in what I regard as a false light, I venture to hope you will do me the great favor to publish this letter completely.

By authority of the secretary:

Very respectfully yours,

C. G. ABBOT,

*Director, Astrophysical Observatory*

Director Percival Lowell,

Lowell Observatory,

Flagstaff, Arizona.

53 STATE STREET, BOSTON,

16 May, 1910.

*Dear Sir:* On my return from Europe to-day I find your note of March the twenty-fourth.

I am very sorry that you should feel hurt by a quotation of your own words, nor does it seem to me that your letter changes them in the least,

and as to publishing the letters it receives, this is never done by the observatory.

Believe me to be,

Yours truly,

PERCIVAL LOWELL,

*Director*

Professor C. G. Abbot,

Director, Astrophysical Observatory,

Washington, D. C.

#### BACTERIA IN THE TROPICS

TO THE EDITOR OF SCIENCE: Allow me to correct a statement made on page 618 in no. 799 of SCIENCE. It reads: "As a matter of fact, the ordinary bacteria of northern latitudes do not flourish in the tropics."

During the summers of 1907 and 1909 I had ample occasion, as physiologist of the U. S. Experiment Station in Mayaguez, Porto Rico, to examine soils in this tropical island. I found that the most common soil microbes of the north occur also there. *Bacillus mycoides* takes here as there the most prominent position, then follows *Bacillus subtilis* and *Bacillus butyricus* (*Clostridium*) and then *B. fluorescens liquefaciens*. *Azotobacter* is found everywhere on the surface in great abundance. A superabundance of microbes in these tropical soils is checked by a very rich infusorial life. Infusoria, Flagellata and Amœbæ devour continuously great numbers of microbes. The nitrogen content of the superficial soil-layers is doubtless due to a considerable extent to the dead and living bodies of these low animals.

OSCAR LÖEW

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#### QUOTATIONS

##### THE SALARIES OF PROFESSORS

WHILE the universities of the land are receiving the most munificent gifts, while millions are devoted to the construction of marble halls and ivory towers, the wives of the college professors are trying to make both ends meet on their husbands' average salary of \$2,500 a year. The size of some professors' families fails to support the theory of race suicide, but their stipends for training the youth of this great and wealthy country afford a pretty clear demonstration of the be-